EXHIBIT 3

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COMPUTER DICTIONARY

SECOND EDITION

COMPLETELY
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DEFINITIONS AND
ILLUSTRATIONS

THE COMPREHENSIVE STANDARD FOR BUSINESS, SCHOOL, LIBRARY, AND HOME

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PRESS

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symbol In programming, a name that represents a register, an absolute value, or a memory address (relative or absolute). *See also* identifier, operator.

symbol font A special font or typeface that replaces the characters normally accessible from the keyboard with alternative characters used as symbols—for example, the letters of the Greek alphabet or a set of algebraic, scientific, linguistic, and commercial symbols.

symbolic address A memory address that can be referred to in a program by name rather than by number. The interpreter, compiler, or assembler translates the name into the number that specifies the address.

symbolic language A computer language that uses symbols such as keywords, variables, and operators to form instructions. All computer languages except machine language are symbolic languages.

symbolic logic A representation of the laws of reasoning, so named because symbols rather than natural-language expressions are used to state propositions and relationships. Symbolic logic is also called mathematical logic because it incorporates algebra and other mathematical methods; it is also known to mathematicians simply as logic. *See* also logic.

symbol set Any collection of symbols legitimized by a data-coding system (such as extended ASCII) or a programming language.

symbol table A list of all identifiers encountered when a program is compiled (or assembled), their locations in the program, and their attributes, such as variable, routine, and so on. The symbol table is kept by the compiler (or assembler) and is used during compilation (or assembly) to verify or resolve references to different identifiers; often, it is also stored as part of the object code so that the linker can resolve references between separately compiled modules. *See also* compiler, identifier, linker, module, object code.

SYN Abbreviation for synchronizing character, a character used in synchronous (timed) communications that enables the sending and receiving devices to maintain the same timing.

sync character *See* SYN.

synchronization The matching of timing between separate computers or among the components of a system so that all are coordinated. Synchronization plays a role in the internal workings of a computer, in computer communications, and in such fields as compact disc technology. Within a computer, for instance, operations are synchronized with signals of the machine's internal clock. In synchronous (time-dependent) communications, the individual bits composing transmissions between computers are sent and interpreted on the basis of synchronized timing. In multimedia presentations containing text, sound, and graphics, the separate elements are synchronized so that they appear at the proper time when replayed.

synchronization signal *See* sync signal.

Synchronous Data Link Control *See* SDLC.

synchronous operation Generally, any operation that proceeds under control of a clock or timing mechanism. In communications and bus operation, data transfer accompanied by clock pulses either embedded in the data stream or provided simultaneously on a separate line. *Compare* asynchronous operation.

synchronous protocol A set of guidelines developed to standardize synchronous communications between computers. There are a number of different synchronous protocols, some based on the transmission of streams of bits, others based on recognized character codes. Examples include the character-oriented binary synchronous (BISYNC) protocol and the bit-oriented High-level Data Link Control (HDLC) and Synchronous Data Link Control (SDLC) protocols.

synchronous transmission Data transfer in which information is transmitted in blocks (frames) of bits separated by equal time intervals. To work, synchronous transmission relies on finely controlled timing based on the clocks of the sending and receiving devices. Special synchronizing characters (unique combinations of bits) are used both to initiate synchronization and to enable the machines to periodically check for and correct any variations in timing.

Webster's

NEW WORLD DICTIONARY® OF COMPUTER TERMS

FIFTH EDITION

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symbol   (1) A letter or mark representing quantities, relations, or operations. (2) In ARTIFICIAL INTELLIGENCE, an entity chosen to represent a person, object, concept, operation, relationship, or attribute of an object in the world.

symbolic address   An address, expressed in symbols convenient to the program writer, that must be translated into an absolute address (usually by an assembler) before it can be interpreted by a computer. Contrast with EXPLICIT ADDRESS.

symbolic coding   Coding in which the instructions are written in nonmachine language, using symbolic notation for operation codes and operands.

symbolic debugger   A debugger that allows the programmer to trace the values of variables in a program by requesting a particular symbol or name from the source code.

symbolic device   A name used to indicate an input/output file, such as SYSDSK to specify a magnetic disk unit. Compare SYMBOLIC I/O ASSIGNMENT.

symbolic editor   A system program that helps computer users in the preparation and modification of source-language programs by adding, changing, or deleting lines of text.

symbolic I/O assignment   The name used to indicate an input/output unit, such as PTR used to specify a printer. Compare SYMBOLIC DEVICE.

symbolic language   A PSEUDOLANGUAGE made up of letters, characters, and numbers that are not the internal language of the computer system.

symbolic logic   A discipline that treats formal logic by means of a formalized artificial language whose purpose is to avoid the ambiguities and logical inadequacies of natural language.

symbolic modeling   The technique of representing a body of symbolic knowledge in a computer program so that the program can draw conclusions and answer questions about the body of knowledge.

symbolic name   See NAME.

symbolic processing   Processing that distinguishes artificial intelligence programming from other types of programming; formal reasoning with symbols. The manipulation of symbols using strategies and heuristics, as opposed to the manipulation of numbers or the use of algorithms.

symbolic programming   (1) Using a SYMBOLIC LANGUAGE to prepare computer programs. (2) An alternate name for artificial intelligence. The advantages of the term symbolic programming are that it avoids the futuristic connotations and the inevitable comparisons with human beings.

symbolic table   A table for comparing a set of symbols to another set of symbols or numbers; for example, in an assembler, the symbol table contains the symbolic label address of an assembled object program.

symbol manipulation   The recognition, assembling, and modification of symbols. The thrust of artificial intelligence has been to use symbols to make inferences, and this is the core of symbol manipulation.

symbol processor   (1) A COMPUTER that manipulates symbols as well as numbers. (2) An alternate name for a computer.

symbol string   A string consisting solely of symbols.

symbol structure   A DATA STRUCTURE made up of symbols.

symbol table   A list of names used in a program with brief descriptions and storage addresses.

Symphony™   A software package that provides word processing, database management, spreadsheet, data communications, and graphics.

sync character   A character transmitted to establish character synchronization in synchronous communications.

synchronization   An adjustment of the chronological relationships between events, either to cause them to coincide or to maintain a fixed time difference between them.